AMENDMENTS TO THE CLAIMS:

1. (ORIGINAL) A photovoltaic module for converting coherent laser radiation from a laser emitting light at a wavelength into electrical power, said module comprising:

(a) a housing having a cavity of generally optimized closed shape inside said housing, said cavity having an internal surface area A_s and including an opening for admitting said laser radiation into said cavity, said opening having an entrance aperture area A_i that is substantially smaller than A_s; and

(b) a plurality of photovoltaic cells within said cavity, said photovoltaic cells having an appropriate bandgap energy to respond to said wavelength and generate said electrical power.

2. (ORIGINAL) The photovoltaic module of Claim 1 wherein each said photovoltaic cell is a single junction cell having a receiving surface on which said laser radiation is incident.

3. (ORIGINAL) The photovoltaic module of Claim 2 wherein each photovoltaic cell is provided with a back surface mirror for reflecting photons not absorbed by a photovoltaic cell on which said photons are incident.

4. (ORIGINAL) The photovoltaic module of Claim 2 wherein said photovoltaic cells have a given quantum efficiency selected to optimize the conversion of said wavelength of said laser.

5. (ORIGINAL) The photovoltaic module of Claim 1 further including a secondary concentrator system for receiving pre-focused said laser radiation from a primary concentrator, secured to said opening.

6. (ORIGINAL) The photovoltaic module of Claim 5 wherein said secondary concentrator includes inner surfaces that are mirrored.

7. (ORIGINAL) The photovoltaic module of Claim 6 wherein said secondary concentrator is a non-imaging, compound parabolic of hollow design.

8. (ORIGINAL) The photovoltaic module of Claim 6 wherein said secondary concentrator has a Bezier optimized contour to provide a combination of maximum acceptance angle, maximum concentration, and minimum height.
(ORIGINAL)
9. (ORIGINAL) The photovoltaic module of Claim 5 wherein said secondary concentrator is dielectric and further includes an integral extractor rod for guiding said light towards the center of said cavity and then to emit photons uniformly in all directions to provide angular isotropy of said photons.

10. (ORIGINAL) The photovoltaic module of Claim 1 wherein the ratio of A_i to A_s is 0.01 or less.

11. (ORIGINAL) The photovoltaic module of Claim 1 wherein said photovoltaic cells have an optimized bandgap energy to respond to said wavelength.

12. **(ORIGINAL)** The photovoltaic module of Claim 11 wherein said photovoltaic cells have a peak of quantum efficiency response matching said wavelength.

13. **(ORIGINAL)** The photovoltaic module of Claim 1 where in the laser radiation contains a power component of a selected wavelenght

and a multiplexed communications component of a different wavelenght, and further including

(a) a plurality of ~~solar~~ cells within said cavity, at least some of said ~~solar~~ cells each having a ~~different energy~~ bandgap~~s~~ corresponding to the power component of the laser radiation, and at least some of said cells having a bandgap corresponding to the communications component of the laser radiation, so that their spectral responses span ~~at least a portion of the solar spectrum~~ different wavelength ranges; and

(b) at least one wavelength filter associated with each ~~solar~~ cell, said at least one wavelength filter ~~selected from the group consisting of Rugate filters and a combination of Rugate filters and stack interference filters, thereby~~ providing selective transmission corresponding to the bandgap of the cell and reflection of incident ~~solar~~ radiation without the bandgap of the cell to demultiplex the components and to assist in maximizing absorption of each component of the laser radiation ~~a region of said solar spectrum by solar~~ by the cells having ~~an appropriate~~the corresponding bandgap.

14. **(ORIGINAL)** The photovoltaic module of Claim 13 wherein said solar cells are multi-junction solar cells.

15. (ORIGINAL) In combination, a reflecting concentrator and a photovoltaic module for converting coherent laser radiation from a laser emitting light at a wavelength into electrical power, wherein:

(a) said module comprises

(1) a housing having a cavity of generally optimized closed shape inside said housing, said cavity having an internal surface area A_s and including an opening for admitting said laser radiation into said cavity, said opening having an entrance aperture area A_i that is substantially smaller than A_s, and

(2) a plurality of photovoltaic cells within said cavity, said photovoltaic cells having an appropriate bandgap energy to respond to said wavelength and generate said electrical power;

(b) said reflecting concentrator comprises

(1) a primary concentrator for intercepting and concentrating said laser radiation, and

(2) a secondary concentrator for receiving said concentrating said laser radiation from said primary concentrator and further concentrating said laser radiation; and

(c) said photovoltaic module positioned for receiving said further concentrated laser radiation from said secondary concentrator.

16. (ORIGINAL) The combination of Claim 15 wherein said reflecting concentrator comprises a Cassegranian concentrator.

17. (ORIGINAL) The combination of Claim 15 wherein said Cassegranian concentrator comprises as said primary concentrator a parabolic concentrator and as said secondary concentrator a hyperbolic concentrator.

18. (ORIGINAL) The combination of Claim 15 wherein each said photovoltaic cell is a single junction cell having a receiving surface on which said laser radiation is incident.

19. (ORIGINAL) The combination of Claim 18 wherein each photovoltaic cell is provided with a back surface mirror for reflecting photons not absorbed by a photovoltaic cell on which said photons are incident.

20. (ORIGINAL) The combination of Claim 18 wherein said photovoltaic cells have a given quantum efficiency selected to optimize the conversion of said wavelength of said laser.

21. (ORIGINAL) The combination of Claim 15 further including a secondary concentrator system for receiving pre-focused said laser radiation from a primary concentrator, secured to said opening.

22. (ORIGINAL) The combination of Claim 21 wherein said secondary concentrator includes inner surfaces that are mirrored.

23. (ORIGINAL) The combination of Claim 22 wherein said secondary concentrator is a non-imaging, compound parabolic of hollow design.

24. (ORIGINAL) The combination of Claim 22 wherein said secondary concentrator has a Bezier optimized contour to provide a combination of maximum acceptance angle, maximum concentration, and minimum height.

25. (ORIGINAL) The combination of Claim 21 wherein said secondary concentrator is dielectric and further includes an integral extractor rod for guiding said light towards the center of said cavity and then to emit photons uniformly in all directions to provide angular isotropy of said photons.

26. (ORIGINAL) The combination of Claim 15 wherein the ratio of A_i to A_s is 0.01 or less.

27. (ORIGINAL) The combination of Claim 15 wherein said photovoltaic cells have an optimized energy bandgap to respond to said wavelength.

28. **(ORIGINAL)** The combination of Claim 27 wherein said photovoltaic cells have a peak of quantum efficiency response matching said wavelength.

29. **(ORIGINAL)** The combination of Claim 15 further including means for transferring waste heat from said photovoltaic module to a back surface of said primary concentrator for radiation into the surrounding environment.

30. **(CURRENTLY AMENDED)** The combination of Claim 15 wherein said coherent radiation includes at least two multiplexed wavelengths of radiation, a first wavelength corresponding power component and a second corresponding to communications component ~~further including~~

~~(a) a plurality of solar cells within said cavity,~~ at least some of said ~~solar~~ photovoltaic cells ~~each having~~ have an ~~different~~ energy bandgap~~s~~ responsive to the power component and at least some of the photovoltaic cells have an energy bandgap responsive to the communications component such that the power component and the communications component are demultiplexed. ~~so that their spectral responses span at least a portion of the solar spectrum; and~~

~~(b) at least one wavelength filter associated with each solar cell, said at least one wavelength filter selected from the group consisting of Rugate filters and a combination of Rugate filters and stack interference filters, thereby providing selective transmission and reflection of incident solar radiation to assist in maximizing absorption of a region of said solar spectrum by solar cells having an appropriate bandgap~~.

31. **(CURRENTLY AMENDED)** The combination of Claim 30 wherein said ~~solar~~ cells are ~~multi-junction solar~~ cells tuned to a frequency corresponding to the electrical component or the communications component.

32. (NEW) The combination of claim 30 further comprising:

at least one wavelength selective filter associated with each corresponding photovoltaic cell, said filter associated with the cells responsive to the power component for filtering the communications component from the multiplexed wavelengths, and the filter associated with the cells responsive to the communications component for filtering the power component from the multiplexed wavelengths, such that cells responsive to the power component produce an electrical power output and cells responsive to the communications component produce a communications output.

33. (NEW) The combination of claim 32 wherein each filter comprises a Rugate filter, for reflecting one of the components of the multiplexed wavelengths, such that only wavelengths are transmitted to each cell for which the cell is responsive for producing a corresponding output.